DD/S 63-4603

# GENERAL SERVICES ADMINISTRATION

*Public Buildings Service*
*Washington 25, D. C.*

OCT 28 1963

Bldg-Lgw3

Colonel L. K. White
Deputy Director (Support)
Central Intelligence Agency
Washington 25, D. C.

Dear Colonel White:

We regret the deficiencies in the airconditioning system for your new headquarters building at Langley about which you wrote on October 7, 1963.

I asked Mr. Rantzow of my staff to check into this matter and to call you. I understand that he did so yesterday.

Region 3 has employed a consultant to review the findings of the study made of the system and to furnish recommendations as to corrective action necessary. It is hoped that these recommendations will be received in time so that corrective action will be completed before the next cooling season. In the meantime, we will do all possible with our maintenance force to obtain the most efficient operation of the existing system.

Sincerely yours,

R. T. Daly
Commissioner
Public Buildings Service

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CENTRAL INTELLIGENCE AGENCY

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DD/S 63-4214

LBK

8 October 1963

bldg + Sw3

MEMORANDUM FOR: Mr. Kirkpatrick

SUBJECT : Air Conditioning and Heating Systems

Kirk:

The frigid temperature in the Director's dining room last Friday was caused by a stuck thermostat; this has been corrected. As to the problem with regard to our over-all system and what we are doing about it, I attach hereto two letters which have been sent to the Public Buildings Service on this subject. I am not optimistic that we are going to have a satisfactory condition very soon, but we will certainly keep all the pressure we can on the General Services Administration.

STAT

L. K. White

2 Attachments:
Att 1: Ltr dtd 7 Oct 63 to Regional Director, PBS fr C/RECD/OL
Att 2: Ltr dtd 7 Oct 63 to Commissioner, PBS fr DD/S

DD/S 63-4218

xx 20505

7 October 1963

Mr. Robert T. Daly
Commissioner, Public Buildings Service
General Services Administration
Washington, D. C. 20407

Dear Bob:

As you know, we have occupied our new headquarters building at Langley for approximately two years. We recognized that some period of time after occupancy would be required to adjust and balance the air conditioning and heating systems.

While a great deal of attention has been given to this problem, the situation is still very unsatisfactory. A team of engineers from Region 3, assisted by Agency representatives, began this summer and has now completed an intensive study of the systems and has identified a number of deficiencies which must be corrected. I enclose for your reference a copy of a summary of the findings which has been forwarded today to Mr. Anthony W. Innamorati, Regional Director of the Public Buildings Service.

We realize that these systems are complicated and that adequate corrective measures do take time. It does seem to us, however, that by this time we should have clearly identified the problems and initiated vigorous and concerted action to solve them.

We would appreciate very much anything you can do to expedite the decisions and actions which are necessary to provide a satisfactory system with the least possible delay.

Sincerely,

Signed

L. K. White
Deputy Director
(Support)

Enclosure
DD/S:LKW:sbo
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20505

Mr. Anthony W. Innamorati
Regional Director
Public Buildings Service
General Services Administration
Washington, D. C. 20407

Dear Mr. Innamorati:

There are certain deficiencies in the air conditioning and heating systems in our headquarters building at Langley, Virginia, which have existed since the building was first occupied and which need correction. It has taken time to go through a couple of heating and cooling seasons and to isolate them from the usual shakedown problems. It is requested that your office review the problems set forth in the attachment and submit proposals for their solutions.

The attachment is a summary of investigative work performed by Messrs. Gustav Bengtson and Richard Gibbons, PBS engineers; Roy Gaines, Chief Operating Engineer; and [redacted] CIA engineer. STAT Mr. Bengtson now has in his possession the resultant notes and sketches, and is fully conversant with the problems.

Included in the attachment is an item concerning the temperature of chilled water in the secondary system which is the subject of my letter of 22 August 1963 to you. It was of concern at that time because of its effect on the new air conditioning installed in the Director's office. It is also included here because of its relationship to these deficiencies. It is so noted in the attachment.

Not included in the attachment are the deficiencies concerning the outside air plenum and the evaporative condensers for the 330 ton compressor in the kitchen fan room. These were the subjects of previous correspondence with Mr. Bengtson and Mr. Von Otto.

Sincerely,

STAT [redacted]

Chief, Real Estate & Construction Division

Attachment

STAT cc: [redacted] Bldg. Manager

Distribution:
Original & 1 - Addressee
1 - Ex. Director (Mr. Kirkpatrick)
1 - DD/S
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STAT OL/RECD/UEB/[redacted]:mew
(7 October 1963)

## CONTENTS



Attachment to letter to Regional Director,
Region 3, PBS dated 7 October 1963.

## A. Modifications of Main Air Handlers

### 1. Fresh Air Dampers

At present it is necessary to keep the cooling access doors open in 30° and below weather to temper the cold fresh air with warm air from the fan rooms. Otherwise, the freeze prevention thermostats trip out the fans. When the temperature rises above 30°, the doors must be immediately closed to forestall numerous overheating complaints.

### 2. Controls of Fresh Air Dampers and Preheat Steam Valves

At present the sensors of the controls which actuate both the dampers and steam valves are wired to the backs of the preheat coils and sense the radiant heat of the coils and not the air stream temperatures. Also, at times it has been noted that excessive time period elapses between the time these sensors receive a signal and the time the activators on the dampers and steam valves move. On cold days the dampers and valves fluctuate continuously and rapidly from full open to full closed. Experimental modifications which have been made on two air handlers to improve these conditions have been successful.

### 3. Reheat Sensors

At present the reheat sensors do not give representative readings of the air streams because they are poorly located in the ducts. Some have been lost. It has been suggested that they be moved downstream out of the turbulent zone and located with care to assure representative readings.

## B. Modifications of Perimeter System

### 1. Chilled Water Distribution

Chilled water is furnished by the power house to the cooling coils in the air handlers (the primary system) and to the coils in the perimeter units (the secondary system). Between these two segments of the whole cooling system there exists a hydraulic imbalance.

Mr. Turner:

Attached is the correspondence on air-conditioning which you requested.

12/4/63



Miriam

B. Malfunctions of Perimeter System

1. Chilled Water Distribution (continued)

Because of the imbalance, the mixing valves of the secondary system are unable to cope with the transmission pressure necessary to force the water from the power house to the remotest air handler. They permit the chilled water to be short-circuited through the secondary pump manifolds which in turn makes it impossible to properly regulate its temperature in the secondary system. (Note: This deficiency concerning the temperature of the secondary chilled water is the subject of Mr. Chandler's letter of 22 August 1963 to Mr. Innocenti.)

2. Induction Units (window units)

Few of the induction units in the building are delivering the correct amounts of air. This is due partly to tampering with the dampers in the units, partly to dirt in the orifices and on the coils, and partly to the excessive static pressures being accumulatively built up.

3. Thermostats of the Perimeter System

a. These thermostats, except for the 7th floor, are all mounted on the exterior walls. (On the 7th floor the sensors are in the window bonce.) In addition to poor functioning due to the wall locations, each thermostat controls 7 to 12 units whereas good practice is to control no more than four units. Where the 12 units are divided among several rooms, large and small, the thermostat is not representative of all the rooms.

b. The pneumatic air lines have a history of carrying oil vapor which from time to time plugs the bleed orifices in the thermostatics. The result is non-operative water valves and room complaints.

C. Malfunctions of Dual Duct Systems

Some conference rooms served by these systems have complained about lack of ventilation and poor temperature control since occupancy. Investigation of complaints have revealed that the main trouble is inadequate air, but also some controls have been found to be cross-wired.

D. Malfunctions of Interior Systems

Complaints from areas on the interior systems are found to be caused in great part by inadequate thermostat control. Very large areas, as much as 70,000 square feet, and extending up from the 2nd through the 6th floor, are controlled by a single thermostat in a "representative" room. It has been suggested that the electronic wall thermostats in representative rooms be replaced by sensors placed in zone return ducts.